

Appl. No. : 10/018,637
Filed : June 7, 2002

REMARKS

In response to the final Office Action mailed July 28, 2006, Applicant has amended Claims 1, 22 and 24 as above. The amendments to the claims are supported by, for example, Figure 4. Thus, no new matter is added by the amendments. Applicant respectfully requests the entry of the amendments and reconsideration of the application in view of the amendments and the remarks set forth below.

The Examiner has rejected Claims 1, 4-7, 9, 15 and 21-24 under 35 U.S.C. § 103 (a) as being unpatentable over Yarger (U.S. Patent No. 5,360,414) in view of Bellino (WO 92/04071). The Examiner has further rejected Claims 3, 10, 13 and 17 under 35 U.S.C. § 103 (a) as being unpatentable over Yarger in view of Bellino and further in view of Hideki (JP 08-266616). Applicant respectfully submits that all pending claims are allowable over the prior art of record as discussed below.

Standard of *Prima facie* Obviousness

In order to provide a *prima facie* showing of obviousness under 35 U.S.C. § 103(a), all the claim limitations must be taught or suggested by the prior art. *See, e.g., In re Royka*, 490 F. 2d 981, 180 U.S.P.Q. 580 (CCPA 1974); MPEP 2143.03.

Patentability of Independent Claims 1, 22 and 24

Independent Claims 1, 22, and 24 have been amended above to recite that the groove is deeper than its width at the opening. Thus, as explained in the specification on page 5, "the side holes of the catheter are connected with each other by a fairly narrow slit...which even soft tissue of the intraperitoneal organs will not close." The grooves and holes as defined in Claims 1, 22, and 24 provide good drainage without excess pain due to the claimed features that the grooves are smaller than the holes, are tapered to be wider at the top than at the bottom, and are deeper than their width at the top.

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In the Office Action, the Examiner argues that it would be obvious to use the hemispherical grooves of Bellino to replace the undercut internally widening grooves of Yarger to produce the invention of Claims 1, 22, and 24.

As an initial matter, this combination does not produce all of the limitations of these claims. The grooves of Bellino are not deeper than they are wide as set forth in Claim 1. The Bellino grooves are hemispherical, which is wider than it is deep. Hemispherical grooves are not the advantageous relatively narrow slit shape. The same is true of the Hideki reference, although this reference shows flat rather than rounded sides. *See Figure 2 of Hideki and Bellino, respectively.* For this reason, the prior art references being cited by the Examiner fail to teach all of the elements of Claim 1 as amended. It is respectfully submitted that for this reason the rejection should be withdrawn.

Furthermore, Applicant respectfully submits that there is no motivation to modify the prior art catheter designs to arrive at the claimed invention. The Examiner points to no expected advantage or benefit that would result from replacing the grooves of Yarger with the grooves of Bellino, Hideki, or any other reference. Instead, the Examiner states that the groove design is a mere design choice, and that the different grooves “would not perform differently than the prior art device.”

On the contrary, the Applicant respectfully submits that the groove designs of the prior art references have a serious disadvantages. When draining with the catheter, suctioning of the internal organs such as the greater omentum and abdominal wall occurs, and this can cause pain and discomfort to the patient. In the prior art of Hideki and Bellino, the tissue of the patient will be pulled into the grooves because of their relatively large width. With the prior art design of Yarger, the flanges covering the groove entrance are thin and will deform due to draining pressure. This can cause the surface of the tube to become uneven, again resulting in discomfort to the patient where the catheter is in contact with internal organs.

Furthermore, if the internal organs of a human do intrude somewhat into the groove due to the suctioning force of the catheter, the intruded internal organs will not reach the lowest bottom of the groove due to the specific configuration of the groove as set forth in independent Claims 1 and 22. Thus, a communication flow path can be ensured in the groove even if the

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opening of the groove is plugged by the internal organs of a human. This advantage cannot be achieved by the groove of Bellino which is formed in a half-circular arc.

By providing the claimed groove structure, pain and discomfort is greatly reduced and relatively unobstructed fluid flow can be maintained. Groove designs providing solutions to these problems are not taught or suggested by any of the prior art of record, either alone, or in combination.

Patentability of Dependent Claims

The remaining claims depend from base Claim 1 or 22, and further define additional technical features of the present invention. In view of the patentability of their base claims, and in further view of their additional technical features, Applicant respectfully submits that the dependent claims are patentable over the prior art of record.

CONCLUSION

In view of Applicant's foregoing amendments and remarks, it is respectfully submitted that the present application is in condition for allowance. Should the Examiner have any remaining concerns which might prevent the prompt allowance of the application, the Examiner is respectfully invited to contact the undersigned at the telephone number appearing below.

Respectfully submitted,

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Dated: 10/26/06

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